

## ***Interactive comment on “The 4.2 ka BP event in the Levant” by David Kaniewski et al.***

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Suggestion of minor improvements to Kaniewski et al 4.2 ka BP event in the Levant

For Turkey, the Sofular Cave speleothem’s absence of 4.2 ka BP signal is noted as a useful 4.2 ka BP proxy without mention that its eccentric Black Sea orography and high precipitation does not reflect surrounding Mediterranean westerlies vectors, problematically also displays other climate change events, and is the exception to the abrupt ca. 4.2 - 3.9 ka BP megadrought events observed across Anatolia at the Bosphorus, Nar Lake, Lake Tecer, Lake Van, and adjacent Iranian Lake Neor and Gol-e Zard.

Suggest delete replication of Bryson’s 1997 “blackbox” model that uses no paleoclimate proxy data for the 4.2 ka BP event at “Kameshli”, “Tell Leilan” and elsewhere.

The two relevant data sets from Lebanon, Jeita Cave (Cheng et al 2015) and al-Jour

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marsh (Cheddadi and Kather 2016), with synchronous abrupt three century aridification events at 4.2 ka BP, are obscured by discussion of a) the replaced low sampling Jeita cave isotope analysis of Verheyden et al (2008), and b) the older, low resolution,  $^{14}\text{C}$  dating of two other Lebanon marshes (Ammiq and Chamsine) that are misleadingly said to “clearly delineate that the drier phase started earlier, between 4700 and 4400 BP”.

The Israel data from the Dead Sea are presented uncritically, along with Roberts’s unlikely hypothesis that low coastal precipitation reduction accompanied high inland precipitation reduction at 4.2 ka BP.

The authors accept Roberts’s east–west Mediterranean climate seesaw (east dry, west wet) hypothesis that seems disproven by abundant western Mediterranean terrestrial and marine core proxies.

The authors’ cite their models that are of limited utility, as their limited representation of initial conditions accompanies limited external forcing mechanisms.

Suggest paper be re-focused upon their very significant presentation of the high-resolution data from Lebanon and Israel.

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